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(71) Applicant(s)
Balraj Akalley
22 View Drive, OAKHAM, Dudley,
DY2 4TD, United Kingdom

(72) Inventor(s)
Balraj Akalley

(74) Agent and/or Address for Service
Withers & Rogers
Goldings House, 2 Hays Lane, LONDON,
SE1 2HW, United Kingdom

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(54) Abstract Title
A computer system for enabling text message entries in a lottery

(57) A computer system for enabling text message entries in a lottery system comprising a caller input including a caller identification component and a text message having lottery details, a caller output, a caller identification element to ensure a valid entry can be processed (e.g. the caller being registered with a mobile phone operator), an element adapted to analyse the text message and generate an entry in the lottery system and wherein the system is adapted to communicate confirmation to a caller of a valid entry in a lottery. A system adapted to enable communication of a winning entry to a user or caller is also described. The text message may be in the form of an SMS message.

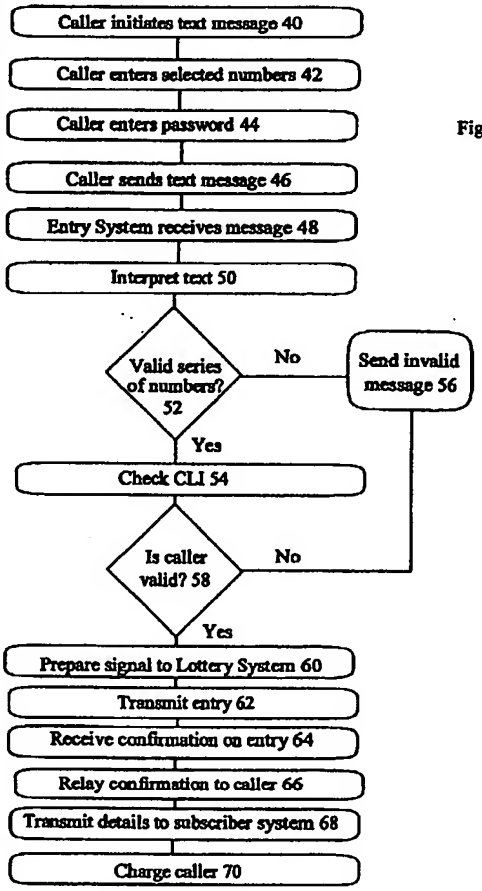

Figure 3

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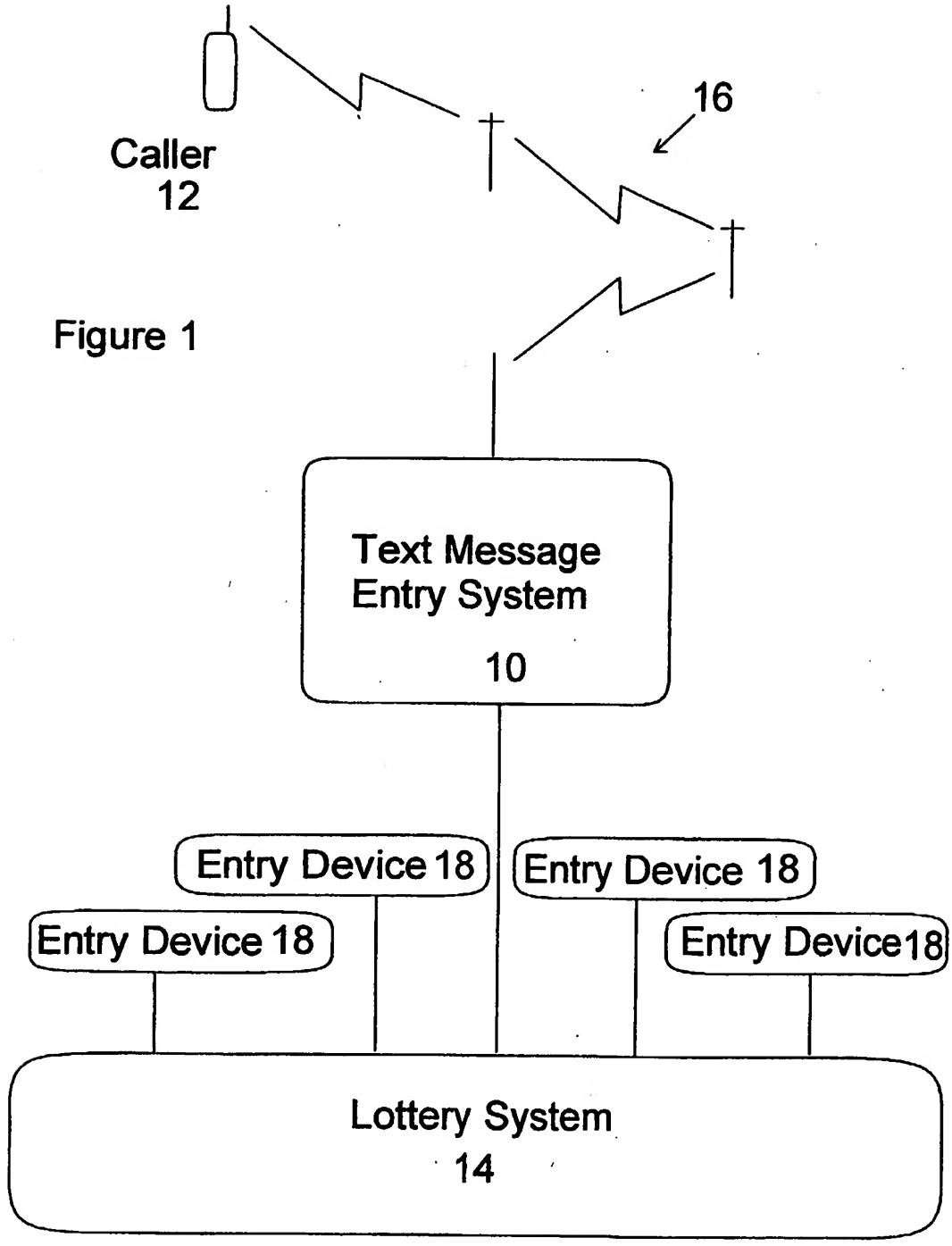
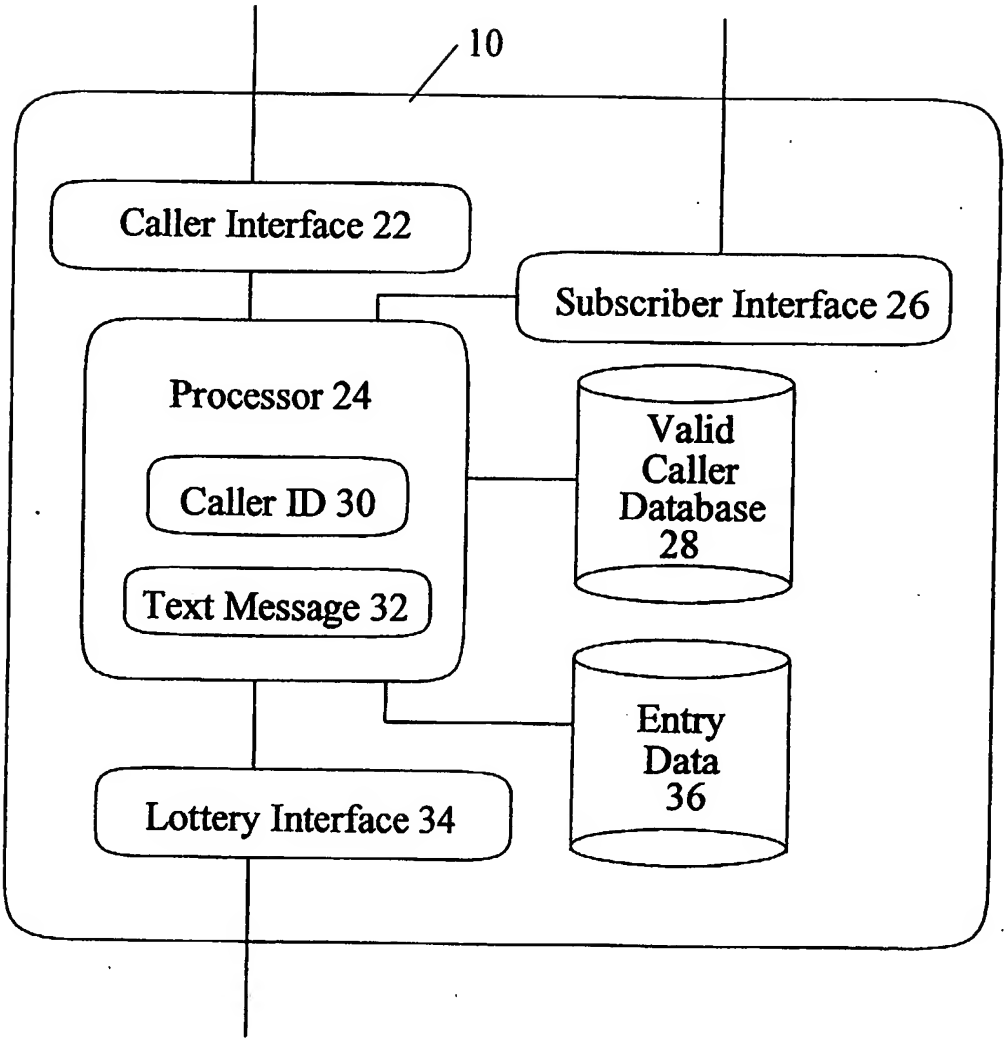

16
Caller
12
Text Message
Entry System
10
Entry Device 18
Entry Device 18
Entry Device 18
Entry Device18
Lottery System
14

Figure 1

Figure 2


10
Caller Interface 22
Subscriber Interface 26
Processor 24
Caller ID 30
Text Message 32
Valid Caller Database 28
Entry Data 36
Lottery Interface 34

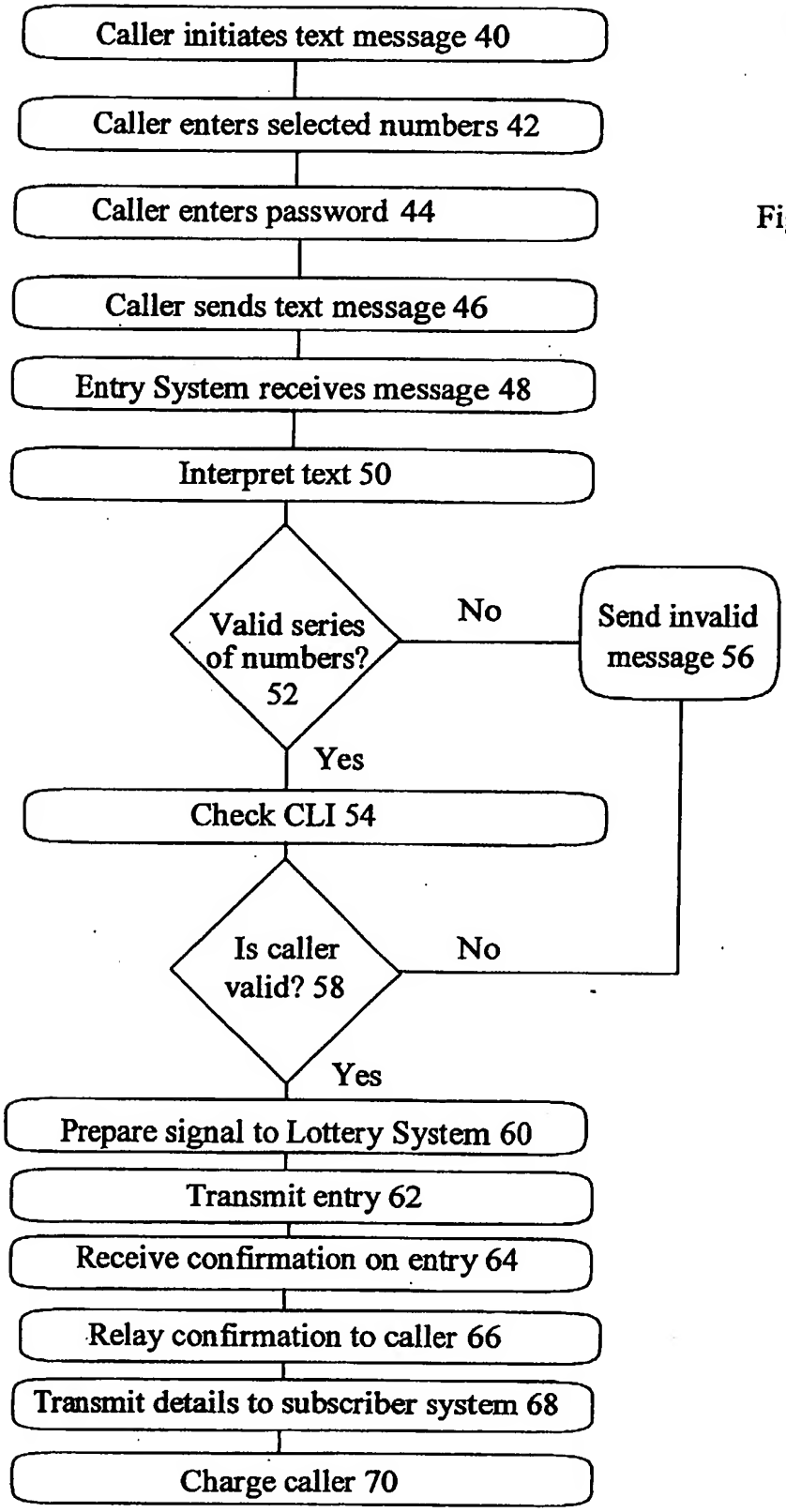
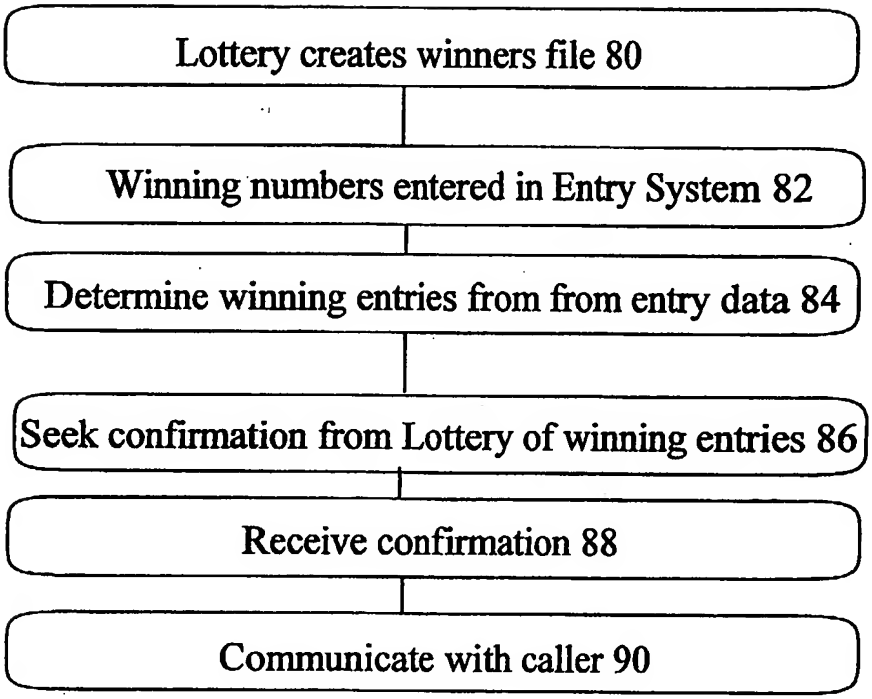

Caller initiates text message 40
Caller enters selected numbers 42
Caller enters password 44
Caller sends text message 46
Entry System receives message 48
Interpret text 50
Valid series of numbers? 52
No
Send invalid message 56
Yes
Check CLI 54
Is caller valid? 58
No
Yes
Prepare signal to Lottery System 60
Transmit entry 62
Receive confirmation on entry 64
Relay confirmation to caller 66
Transmit details to subscriber system 68
Charge caller 70

Figure 3

Figure 4


Lottery creates winners file 80
Winning numbers entered in Entry System 82
Determine winning entries from from entry data 84
Seek confirmation from Lottery of winning entries 86
Receive confirmation 88
Communicate with caller 90

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Improvements in Lottery Entry Systems

The invention relates to a system for enabling entry into a lottery system using text messaging such as SMS text messages and/or using mobile (or cellular) telephony.

In the UK, a national lottery is held twice a week under licence from the UK government. The main lottery draw entails a user selecting six numbers from a possible 49 numbers in the hope that the selected six numbers will match the randomly selected numbers in a draw. The method of entry into a lottery draw is primarily by completing an entry slip wherein six numbers are selected and/or a user requests a random entry (lucky dip) whereby the user's numbers are selected by a computer. The numbers so entered into a retailer's entry computer, are communicated to a central lottery computer system, which processes the entry and provides verification of a valid entry to the retailer's entry computer. The user is then provided with a printed ticket comprising details of the six selected numbers and an entry number which can be in the form of a barcode. Certain levels of greater sophistication are allowed such as multiple entries on a single ticket and multiple entries for more than one date such as up to eight consecutive draw dates.

It is also known that the national lottery system run in the UK is soon to enable users to enter their selected numbers via the internet. This will entail a user accessing a specific web site in order to make the requisite selection and payment, and an underlying security system is being prepared to ensure continuing integrity of the system to avoid fraud.

However, greater accessability to the system is preferable in order to increase user satisfaction and encourage greater participation in the lottery. An object of the invention is to provide easier access to entry for a user.

According to a first aspect of the invention there is provided a lottery entry system for enabling text message entries in a lottery system, comprising a caller interface for receiving a telecommunications signal comprising a caller identification component and a text message having lottery entry details and for communicating an outgoing telecommunication signal to the caller, a processor comprising a caller identification element adapted to analyse the caller identification component to ensure a valid entry can be processed, for example by the caller being registered with a subscribing mobile phone operator, and a text message element adapted to analyse the text message to determine the lottery entry details, for example six numbers and a valid date of entry, and a lottery system interface for communicating an appropriate signal with the lottery system in order to make a valid entry for the caller, and for receiving confirmation of a successful valid entry from the lottery system, and wherein the lottery entry system is adapted to communicate confirmation to a caller of a valid entry in a lottery system.

Preferably, the text message in the form of an SMS message.

According to second aspects of the invention there is provided a computer system for enabling entry into a lottery system using mobile telephony, comprising: a caller interface for receiving a telecommunication signal from a mobile phone via a mobile telecommunications network (or cellular network), which telecommunication signal comprises a caller identification component, and for communicating an outgoing telecommunication signal to the caller, a processor comprising a caller identification element adapted to analyse the caller identification component to ensure a valid entry can be processed, for example

by the caller being registered with the subscribing mobile phone operator, an entry processing element adapted to receive entry details for a lottery draw from a caller, such as by prompting the caller to press the entry details on the mobile phone keypad in response to audible and/or visual communication from the system, a lottery system interface for communicating an appropriate signal with the lottery system in order to make a valid entry for the caller, and for receiving confirmation of a successful valid entry from the lottery system, and wherein the computer system is adapted to communicate confirmation to a caller of a valid entry in a lottery system.

Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a schematic block diagram of a communications network comprising a text message entry system according to the invention,

Figure 2 is a schematic block diagram of the text message entry system shown in Figure 1.

Figure 3 is a schematic flow diagram of the steps taken to enter a lottery draw using a text messaging system according to the invention, and

Figure 4 is a schematic flow diagram of the process of generating a report of a win to a user of the text message entry system according to the invention.

Referring to Figure 1, there is shown an entry system 10 according to the invention in a communication network between a caller 12 and the lottery system 14. Caller 12 can comprise a user with a mobile, or cellular, phone which is capable of communicating with text message entry system 10 via a telecommunications network such as a cellular or mobile phone network 16, or

public service telephone network (PSTN) involving land lines and or satellite communication or a combination of these. This can be achieved by caller 12 simply sending a text message to a specified phone number in order to transfer the text message to entry system 10. Text message entry system 10 is then adapted to transfer an entry to lottery system 14 and to communicate with lottery system 14 in order to receive confirmation of a valid entry in a similar manner to known entry devices 18 such as the known retail computer devices which rely on scanning marked entry slips in order for a user to enter selected numbers.

Communication between entry system 10, in common with the entry devices 18, with lottery system 14 is via known communication networks which in the case of the national lottery in the UK, is via so called "concentrator" locations which link to two primary computer centres which process all of the entries, indeed enabling 400,000 plays a minute to be processed.

In more detail, the text message entry system 10 according to the invention is shown in Figure 2 as comprising a caller interface 22 which might comprise a call transfer exchange for example capable of handling 10 and/or hundreds of simultaneous incoming calls to the name number, and similarily suitably adapted to generate outgoing calls via the telecommunications network 16 to one or more callers 12. The caller interface 22 communicates with a processor, or controller, 24 which is adapted to control the operation of the various components of the text message entry system 10. For example, processor 24 communicates with a subscriber interface 26 which is adapted to communicate with subscribers to the text message entry system such as mobile phone network service providers such as Vodophone, BT and Orange. Preferably, such subscribers charge a caller for their entry to the lottery and preferably provide a commission to the operators of the text message entry system 10. Accordingly, subscriber interface 26 enables text message entry system 10 to interface with a subscriber for example in order to obtain details of valid caller identities. In a preferred form, valid caller

identities are simply provided in the form of the caller number. Accordingly, a valid caller database 28 can be compiled within text message entry system 10. Beneficially, the valid caller database can be updated frequently for example by a simple communication between a subscriber and a text message entry system 10 via subscriber interface 26 and a telecommunications network whereby a subscriber provides only recently revised data such as deletions and/or additions to the valid caller database. Such data transfer might take place at prescribed periods such as hourly. A password such as a 4 to 8 character alphanumeric string might also be associated with each valid caller number in the what caller database 28. Alternatively details of valid caller identities can be maintained by a subscriber only and entry system 10 communicates with a subscriber computer (not shown) in a subscriber interface 26 in order to validate a call from a caller 12.

Processor 24 comprises components in the form of a caller identification element 30 and a text message element 32.

The caller identification element 30 is used to analyse each incoming call from individual callers 12 to determine a caller identification from the callers telephone number which can be obtained from the incoming caller signal using the caller line identification component of the signal, i.e. using CLI as it is referred to in the UK. Since the CLI number for each caller is unique to that caller as a client of a telephone network operator, it is a suitable means for identifying each caller and beneficially can be used to ensure that the caller is of sufficient age to be allowed to enter the lottery draw. For example, only subscribers to the telecommunications network of a certain age might be entered into the valid caller database 28.

A further component of the processor 24 is the text message element 32 which is adapted to interpret a callers entry details contained within a text message and to

convert those details into a suitable signal for communication with the lottery interface 34. For example, a standard text message format is generated using telecommunications devices such as mobile phones which use the SMS, or short message service on the global system for mobile (GSM) communication system. Accordingly, text message element 32 is adapted to interpret details within the text message of a call and to convert them to a suitable signal for entry into the lottery system 14 via lottery interface 34. Additionally, text message element 32 may be adapted to generate suitable outgoing messages to a caller 12 via caller interface 22. Finally, in the event of a valid entry being made by a caller 12, as described below, entry data is saved in store 36 and can comprise for example the caller identification, entry details such as the selected number and date of the draw or draws which have been entered.

Lottery interface 34 can comprise a simple modem for sending a signal via a telecommunication network to lottery system 14. Alternatively the lottery interface 34 can be adapted itself to modify an entry signal from processor 24 in order to provide requisite security to enable communication with lottery system 14. For example lottery interface 34 can comprise requisite computing components to encrypt or otherwise encode a signal, for example by adding requisite password information, for the purpose of communicating to lottery system 14.

Referring to Figure 3, there is shown a schematic flow diagram of a method of operating the text message entry system 10 according to the invention, whereby a caller 12 begins by operating a telecommunications device such as a mobile phone by selecting to create a text message as shown at step 40. At step 42, the caller enters lottery draw details such as six numbers. The numbers can be simply entered in order for example with a space between each number, or reported by other punctuation such as a comma.

At step 44, an optional security measure is for the caller 12 to enter a password. The password can be an alphanumeric string such as a string comprising a minimum of 4 or a maximum of 8 characters which may or may not be selected by the caller and saved against the caller identification in valid caller database 28.

At step 46, the caller transmits the draw entry details in the form of a text message to text message entry system 10 by calling the appropriate telephone number for text message entry system 10.

At step 48, the text message entry system 10 receives the incoming call and ensures receipt of a caller identification component, or CLI component, and text component. System 10 interprets the text component using text message element 32 as represented schematically at step 50. If text message element 32 identifies that a valid series of numbers is contained within the text message, such as at least one series of appropriate numbers (such as sequence of six different numbers) then the system moves from step 52 to step 54. However, if the entry details within the text message are not in a suitable format or contain insufficient details, then system 10 generates a return communication, such as a text message to caller 12 as shown at step 56.

At step 54, system 10 checks the caller identification using caller identification element 30 which compares the callers telephone number with valid caller details held in the database 28 shown in Figure 2. If it is determined that the caller has a valid identity, such as telephone number and/or password, then as shown at decision step 58, the entry processing sequence continues to step 60. However, if the caller identification is not valid then a return communication is generated as indicated at step 56.

In the case of a valid caller identification processor 24 generates a suitable signal for communication with lottery system 14 as indicated at step 60. The signal is transmitted for entry to the lottery system 14 via lottery interface 34. System 10 then awaits receipt of confirmation of an entry number from lottery system 14 as indicated at step 64. Processor 24 then generates a communication to caller 12 such as in the form of a text message confirming the valid entry details including an individual lottery entry number received from the lottery system 14, and or generated by lottery interface 34, as well as other entry details such as the selected series of numbers, and the users telephone number for example. This communication is transmitted to the user at step 66.

Preferably caller 12 is charged for all communications with text message entry system 10 including text messages and other communication from entry system 10 to caller 12. Such transmissions and the cost of the entry to the lottery system 14 can be communicated with the caller's network provider via the subscriber interface 26 as indicated at step 68. Accordingly, caller 12 can be charged the appropriate fee as indicated at step 70, for example by deducting the appropriate amount from the caller's account with the network service provider which is then obtained through a regular direct debit procedure in the case of a contract based and agreement between caller 12 and the telecommunications network service provider. Similarly, any winning sums can be paid to the caller's account with the telecommunication network service provider; or in the case of larger sums to the individual caller direct using caller address and identification details registered with the telephone network provider.

Referring to Figure 4, text message entry system 10 is preferably adapted to enable communication of a winning entry to a caller 12. After a draw, the winning entries of members is entered in to the lottery system 14 and a separate file of winning entries is created. Preferably, text message entry system 10 is adapted to communicate with lottery system 14 in order to verify when a caller

12 has made a winning entry in the lottery. Preferably data is input into text message entry system 10 in order for it to initially determine whether or not a winning entry has been made via entry system 10 before confirmation is obtained from lottery system 14. Accordingly, referring to Figure 4, at step 80, lottery system 14 generates a winners file after the winning numbers are drawn. Preferably, the winning numbers are also entered into text message entry system 10 as indicated at step 82, processor 24 then preferably determines whether or not any of the entries saved in the entry data database 36 are winning entries as indicated at step 84. If one or more of the entries for that draw are wining entries, preferably, entry system 10 communicates with lottery system 14 in order to seek confirmation as indicated at step 86. System 10 then awaits confirmation from lottery system 14 as indicated at step 88 before communicating an appropriate message such as a text message to caller 12 as indicated at step 90.

In another form an entry system is provided substantially similar to text message entry system 10 which enables interaction with a caller using a mobile phone such that the caller provides entry details in response to prompts from the entry system. Accordingly, the structure of the entry system and process is substantially similar to that just described except that instead of analysis of a text message, the entry system analyses the caller's entry details for direct interaction during a live call. However, the caller identification and processing of the entry can be carried out as described above.

Note that in either embodiment, the caller is able to add details for the date of an entry, however, in a preferred form the default setting is that the entry is for the next available draw only, unless the caller specifies which draw and how many draws are to be entered.

The number of entries for any draw or number of draws can be greater than one and indeed text message element 32 can be adapted to identify the number of

valid strings of numbers (such as two strings of six numbers) and or a number of random selection entries. For example, caller entered details such as LD within a text message can be used to interpret a lucky dip entry whereby a random series of numbers is provided to the caller.

Beneficially, the time of receipt of an signal from a caller 12 can be logged against entry data. This can be quite critical since a time deadline is specified for entry to any given draw.

With regard to callers who are mobile phone users without a specified contact with a network provider, such as so called "pay as you go" users, it is possible for the system to be configured to enable such a caller to register details with entry system 10 and or with their network provider to enable use of entry system 10. Accordingly, details such as a mailing address and age of user can be provided for example in a text message to the network provider (subscriber) and or the operator of the entry system 10.

Preferably a caller 12 is able, for example on the first time of using entry system 10 to indicate whether or not any winnings such as small winnings of £10 are to be credited against the callers telephone account (either as a credit on the networks providers bill or as a top up on the callers "pay as you go" credit).

Beneficially, a text message can be sent to a caller 12 if they are identified as a first time user in order to ensure that all operating features of entry system 10 are understood by the caller 12.

In a design variation, it is possible for the entry system 10 to seek confirmation from a caller that a proposed entry is correct before an entry is made to the lottery system 14. For example, text message element 32 of processor 24 can analyse the caller's entry requirements and put these details into a standard

format with greater text content than the basic entry details which are received by a caller. Beneficially, the caller therefore need only enter minimal information and still be able to verify that such entry details are accurate before incurring a charge for a possible erroneous entry into the lottery system 14. A response by the caller 12 to entry system 10 can be by means of a text message confirmation or as an unanswered call within a specified time frame, whereby processor 24 identifies a caller 12 from the caller's number using CLI.

Claims

1. A computer system for enabling text message entries in a lottery system, comprising;

a caller input for receiving a telecommunications signal comprising a caller identification component and a text message having lottery entry details,

a caller output for communicating with the caller,

a caller identification element adapted to analyse the caller identification component to ensure a valid entry can be processed, for example by the caller being registered with a subscribing mobile phone operator,

a text message element adapted to analyse the text message and generate an appropriate signal for entry in a lottery system,

a communications element for communicating the appropriate signal with the lottery system in order to make a valid entry and for receiving confirmation of a successful valid entry from the lottery system, and wherein

the computer system is preferably adapted to communicate confirmation to a caller of a valid entry in a lottery system.

2. A computer system according to claim 1 in which the text message is in the form of an SMS message.

3. A computer system for enabling entry into a lottery system using mobile telephony, comprising: a caller interface for receiving a telecommunication signal from a mobile phone via a mobile telecommunications network (or cellular network), which telecommunication signal comprises a caller identification component, and for communicating an outgoing telecommunication signal to the caller, a processor comprising a caller identification element adapted to analyse the caller identification component to ensure a valid entry can be processed, for example by the caller being registered with the subscribing mobile phone operator, an entry processing element adapted

to receive entry details for a lottery draw from a caller, such as by prompting the caller to press the entry details on the mobile phone keypad in response to audible and/or visual communication from the system, a lottery system interface for communicating an appropriate signal with the lottery system in order to make a valid entry for the caller, and for receiving confirmation of a successful valid entry from the lottery system, and wherein the computer system is preferably adapted to communicate confirmation to a caller of a valid entry in a lottery system.

4. A computer system according to claim 3 wherein the entry processing element is a text message element adapted to interpret a callers entry details contained within a text message and to convert those details into a suitable signal for communication with the lottery interface.

5. A computer system according to any preceding claim comprising a valid caller database containing information corresponding to valid caller identification components, compiled for example from registrations with the subscribing mobile phone operator, the caller identification element being adapted to analyse the caller identification component of the received communication with the valid components for which corresponding information is stored in the valid caller database.

6. A computer system according to claim 4 wherein the valid caller database can be update by communication between the system and a subscribing mobile phone operator, preferably whereby the subscribing mobile phone operator provides only recently revised data such as deletions and/or additions to the valid caller database more preferably such data transfer taking place at prescribed periods

7. A computer system according to any preceding claim wherein the caller identification component is unique to each caller and preferably can be used to ensure that the caller is of sufficient age to be allowed to enter the lottery system.

8. A computer system according to any preceding claim in which the text message element is adapted to generate a suitable outgoing message to a caller via a caller interface.

9. A computer system according to any preceding claim comprising a memory and in the event of a valid entry being made by a caller entry data is saved in the memory and can comprise for example the caller identification component, entry details such as the selected number and date of the draw or draws which have been entered.

10. A computer system according to any preceding claim when dependent on claim 3 wherein the lottery system interface comprises a modem for sending a signal via a telecommunication network to the lottery system and/or the lottery interface system is adapted itself to modify an entry signal from the processor in order to provide requisite security to enable communication with lottery system

11. A computer system according to any preceding claim wherein the text message element analyses whether a valid series of numbers is contained within the text message, such as at least one series of appropriate numbers and preferably if the details within the text message are not in a suitable format or contain insufficient details, then the system generates a return communication, such as a text message to the caller.

12. A computer system according to any preceding claim adapted to await receipt of confirmation of an entry number from a lottery system after communicating the appropriate signal to the lottery system before generating the

confirmation communication, such as in the form of a text message, to confirm the valid entry details to the caller.

13. A computer system adapted to enable communication, such as by text message, of an entry deemed a wining entry by the lottery system to a caller or user.

14. A computer system according to claim 13 in which entries deemed winning entries are entered in to the lottery system and separate file of winning entries is created and preferably the computer system is adapted to communicate with the lottery system in order to verify when a caller has made a winning entry in the lottery.

15. A computer system according to claim 14 adapted to await verification from the lottery system in response to the communication a before communicating an appropriate message such as a text message to caller notifying the caller that their entry has been deemed a winning entry.

16. A computer system according to any preceding claim adapted to generate a random series of numbers and communicate these random numbers to the lottery system as part of an entry if the text message element identifies appropriate details, such as particular letters, within a text message from a caller.

17. A computer system according to any preceding claim configured to enable a caller to register details with the system and/or with their network provider to enable use of the entry system, preferably details such as a mailing address and age of user are provided for example in a text message to the network provider or to the caller input/interface.

18. A computer system according to any preceding claim adapted to seek confirmation from a caller via a communication that a proposed entry is correct before an entry is made to the lottery system.

19. A computer system according to any preceding claim configured to make and/or receive payments form a callers mobile telephone account allowing appropriate fees for lottery entry to be debited from the caller's account and/or any sum of money owed too a caller with a deemed winning entry to be paid to the account.

The Patent Office

INVESTOR IN PEOPLE

Application No: GB 0310862.8 i7 **Examiner:** Mark Sexton
Claims searched: 1-12 & 16-19 **Date of search:** 22 July 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
X, P	1-9,11,12 & 17-19	GB 2373138 A	(MOBILE GAMING) - see whole document, note particularly claims 21 & 24
X, P	1-9,11,12 & 16-19	WO 02/077931 A1	(COOL 123 LIMITED) - see whole document, note particularly example 6 and "lucky dip"
X, P	1-12 & 17-19	WO 02/054355 A1	(M-WISE INC.) - see whole document, note particularly claims 1,3 &13
X	1-9,11,12 & 17-19	WO 00/77753 A1	(GOLDSTEIN) - see whole document, note particularly figure 3

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC[V]:

H4L; A6H

Worldwide search of patent documents classified in the following areas of the IPC[7]:

H04Q; A63F

The following online and other databases have been used in the preparation of this search report :

Online: WPI, EPODOC, JAPIO